

Study on Ablation Products of Zinc by Intense Pulsed Ion Beam Irradiation

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As a kind of flash heat source, intense pulse ion beam can be used for material surface modification. The ablation effect has important influence on interaction between IPIB and material. Therefore, the understanding of ablation mechanism is of great significance to IPIB application. In this work, pure zinc targets were irradiated and ablated by IPIB. In the ablation process under the different ion beam energy density and number of

pulses, the ablation products were collected by monocrystalline silicon substrate. By analyzing the ablation products with scanning electron microscope and atomic force microscope, the surface morphology of the substrate and the spatial distribution of ablation product quantity were obtained. The results are useful for clearing the ablation process and the influence of beam parameter on the ablation effect.